

WHAT IS CLAIMED IS:

1. A container for printing material, which holds a printing material therein and is mounted on a printing device, said container comprising:

a detector module that utilizes a phenomenon induced by release of energy in discharge of a detection element to detect a status of the printing material; and

a driving circuit that functions to drive said detector module, said driving circuit comprising: a discharge circuit that has a preset impedance and discharges the detection element to release electrical energy accumulated in the detection element; and a supply circuit that has a higher impedance than the impedance of said discharge circuit and supplies electrical energy to the detection element.

2. A container for printing material in accordance with claim 1, wherein the detection element is a piezoelectric element.

3. A container for printing material in accordance with claim 2, wherein discharge of the piezoelectric element subsequent to charge of the piezoelectric element in said driving circuit causes a resonance, and

said detector module detects the status of the printing material according to a frequency of the resonance.

4. A container for printing material in accordance with

claim 2 , said container further comprising a power supply unit to drive said detector module, where an electric power suppliable per unit time by said power supply unit is smaller than an electric power dischargeable from the piezoelectric element per unit time by said discharge circuit.

5 . A container for printing material in accordance with claim 4 , said container further comprising a receiver module that receives an externally input radio wave,

wherein said power supply unit comprises:

an electric power generator that generates an electric power from the radio wave received by said receiver module; and

an electric power supplier that supplies the generated electric power as a power source of said driving circuit.

6 . A container for printing material in accordance with claim 5 , wherein said receiver module is provided as part of a communication module that transmits data including information on the detected status of the printing material to and from said printing device.

7 . A container for printing material in accordance with claim 4 , wherein said power supply unit is a battery set in said container.

8 . A container for printing material in accordance with claim 4 , wherein said driving circuit comprises a booster

circuit that boosts a voltage of the supplied power source and uses the boosted voltage as a power source of said supply circuit.

9. A container for printing material in accordance with claim 1, wherein the detected status of the printing material is a remaining quantity of the printing material.

10. A container for printing material in accordance with claim 1, wherein the detected status of the printing material is one of temperature, humidity, density, mass, viscosity, and pressure of the printing material.

11. A container for printing material, which holds a printing material therein and is mounted on a printing device, said container comprising:

a detector module that utilizes a phenomenon induced by release of energy in discharge of a detection element to detect a status of the printing material; and

~ a driving circuit that functions to drive said detector module, said driving circuit comprising: a charge circuit that charges said detection element, and a discharge circuit that discharges an electric energy accumulated in the detection element, wherein a charging period by said charge circuit is longer than a discharging period by said discharge circuit.

12. A detector for printing material, which uses a

detection element provided in a container for holding a printing material to detect a status of the printing material, said detector comprising:

a supply circuit that has a preset impedance and supplies electrical energy to the detection element;

a discharge circuit that has a lower impedance than the impedance of said supply circuit and discharges the detection element to release electrical energy accumulated in the detection element; and

a detector module that utilizes a phenomenon induced by release of energy in discharge of the detection element to detect the status of the printing material.

13. A method of detecting a status of a printing material with a detection element provided in a container for holding the printing material, said method comprising the steps of:

supplying electrical energy to the detection element via a supply circuit, which has a preset impedance;

discharging the detection element to release electrical energy accumulated in the detection element via a discharge circuit, which has a lower impedance than the impedance of said supply circuit; and

utilizing a phenomenon induced by release of energy in discharge of the detection element to detect the status of the printing material.